COMPUTER MECHANISMS CORPORATION
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COMPUTER MECHANISMS CORPORATION

P. O. BOX 2383
290 HUYLER ST.
SO. HACKENSACK, N. J. 07606
TEL: (201) 487-1970

CMC MODEL 18---THE TAPE READER THAT'S VALUE ENGINEERED

FOR ECONOMY---SIMPLICITY---RELIABILITY!

Dear Sir:

I would like to bring to your attention our MODEL 18 Tape Reader. It produced a considerable stir among design engineers and all others interested in a dependable tape reader at the right price when it was first introduced. Trial orders led to quantity orders---testimony to the philosophy of Computer Mechanisms Corporation to meet the need for quality at low cost.

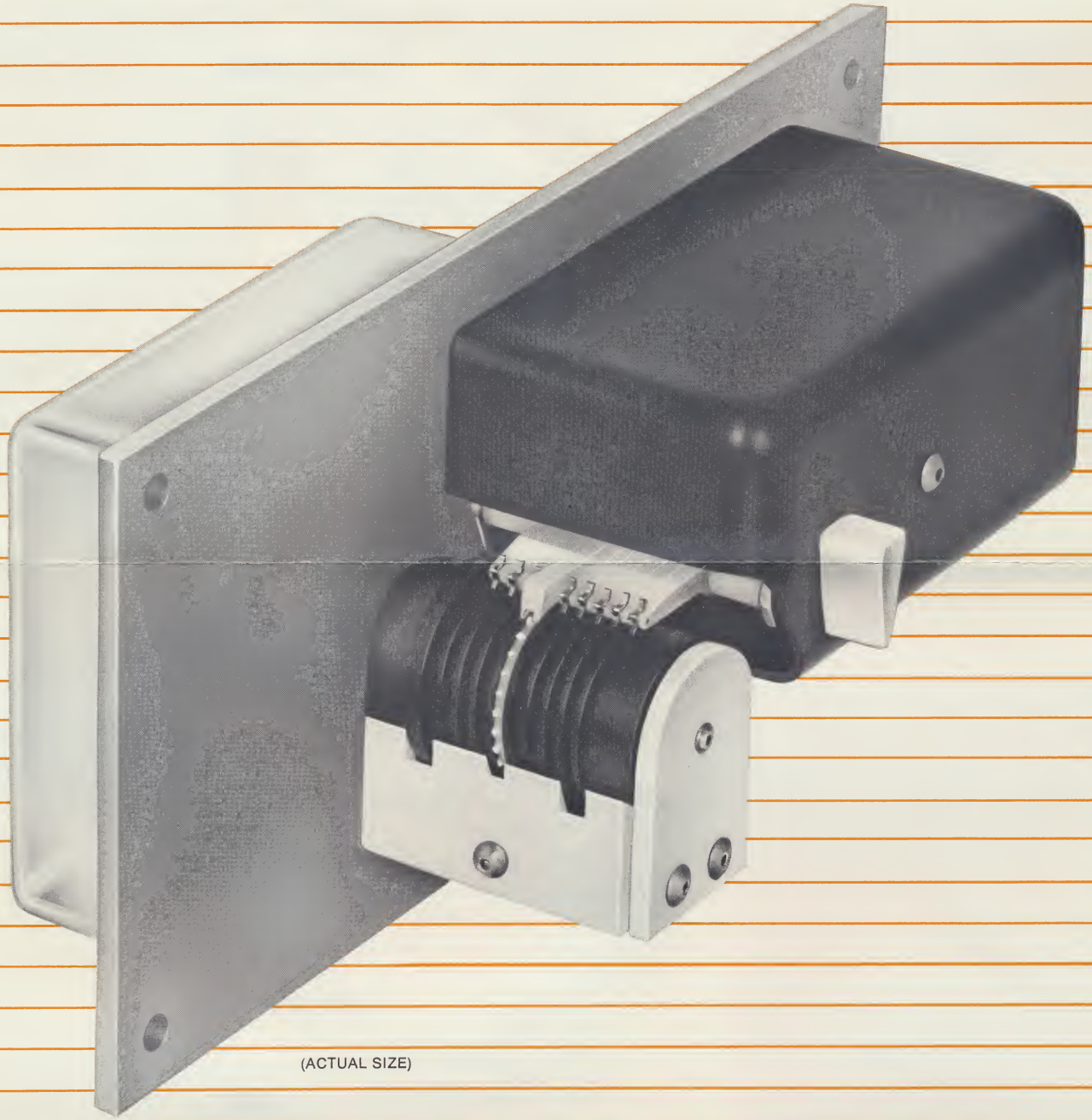
Read the enclosed data bulletin and judge for yourself whether CMC Model 18 will serve YOUR needs at a cost considerably less than you might expect.

When you have satisfied yourself that Computer Mechanisms Corporation has what you want, fill out and return the enclosed business reply card and we'll take it from there.

Sincerely yours,

J. H. Drillick
President

JHD:sl
Enclosures



(ACTUAL SIZE)

The CMC Model 18 TAPE READER

Model 18 Tape Reader reads data in the form of holes in paper tape and presents this data as contact closures to connected equipment. The device uses starwheels to sense the holes and steps the tape by means of a solenoid.

Its simplicity of design and value-engineered manufacture makes the CMC Tape Reader exceptionally reliable in performance and unusually low in cost. It is as easy to use as an ordinary relay and as trouble-free.

Applications of the CMC Model 18 Tape Reader include numerical control of machine tools, data communications, automation of production equipment, automatic typewriters and printers, process control, automatic testing and as an input device to digital computers.

Key features of the CMC Model 18 Tape Reader are: starwheel sensing, solenoid tape feed, mechanical simplicity, reliability, low cost.

Computer Mechanisms Corporation warrants each tape reader for a period of one year. In the event of any defect or malfunction, we will repair or replace any instrument returned to our factory for this purpose.

$180.00 f.o.b. South Hackensack, N.J.

CMC Computer Mechanisms Corporation, 290 Huyler Street
South Hackensack, New Jersey 07606 U.SA.
Phone: (201) 487-1970

SPECIFICATIONS

Solenoid Drive
Approximately 14 watts of power is required to operate the drive coil at rated voltages. Standard readers are available for 12, 24 and 48 volt D.C. operation. Readers for operation on other voltages are available upon special request.

Operate Time
The time required to operate the armature is approximately 15 milliseconds at rated power input. Coil can be overdriven to increase speed of operation.

Release Time
Release time is a function of the suppression circuit used. When a diode-zener series combination (with zener voltage ½ of drive voltage) is placed across the drive coil, release time is approximately 15 milliseconds. For simple diode suppression, release time is approximately 25 milliseconds.

Reading Rate
0 to 30 characters per second, asynchronously, when operated at rated power with appropriate suppression circuit. Speed is a function of solenoid operate and release times.

Reading Direction
Tape transport is unidirectional, from right to left.

Tape
Reader reads all standard perforated 5, 6, 7, or 8 channel tapes. All grades of paper or plastic tapes can be read. Readers capable of reading typesetter "advanced feed" tape (used in the printing industry) are available upon special request.

Starwheel Sensing Contacts
8 starwheels, sensing 8 tape channels, actuate 8 corresponding contacts. Each sensing contact consists of 2 silver contact wires and 1 stainless steel pressure wire. Contact wires close to a common plate. Contacts can switch .100 amperes, resistive load, for a life of 100 million cycles, and can carry steady state currents of 3 amperes.

Tape Loading Contact
Contact open during tape loading, closed when starwheels are in reading position.

Interrupter Contacts
Normally closed at rest, contacts open when armature is pulled in, re-close during latter part of feed stroke. Contact material is tungsten. Contacts can switch 1 ampere, resistive load. Life exceeds 100 million cycles.

Mechanical Life
Exceeds 100 million cycles under normal environmental conditions.

Size
Panel size is ⅛" thick by 3½" high by 7" wide. Front of panel clearance is 2¼". Rear of panel clearance is 1½".

Weight
1½ lbs.

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STARWHEEL SENSING

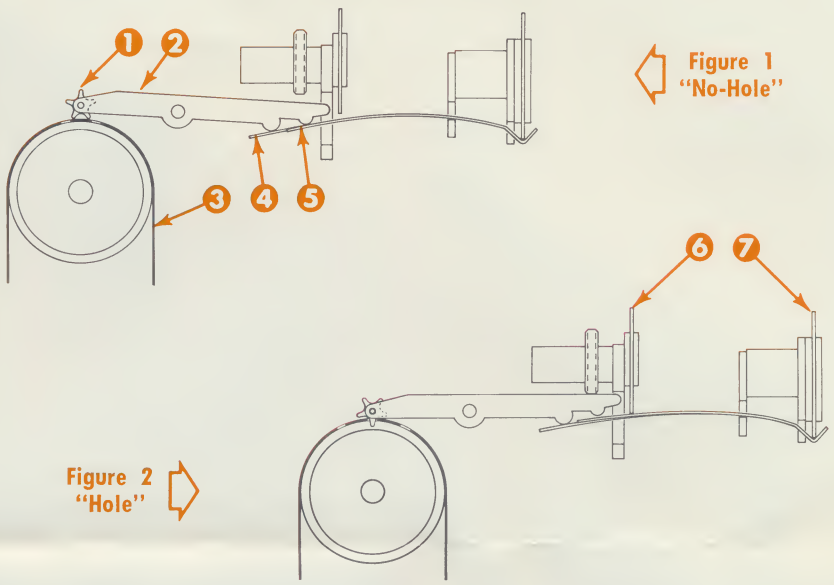

Figure 1 "No-Hole"

Figure 2 "Hole"

Starwheels are used to sense the holes in the tape. The sensing action is illustrated in Figures 1 and 2.

In Figure 1, the starwheel (1) is held against the tape (3) by the sensing arm lever (2) under the urging of the wire contacts (5) and the pressure wire (4). As the tape is advanced, the starwheel slides along the surface of the tape on two of its five points.

When a hole in the tape is encountered, the starwheel rolls into the hole and the resulting motion allows the wire contacts to close against the common plate (6) as shown in Figure 2. Electrical connection is thus established between the common plate and terminal pin (7).

A unique feature of starwheel sensing is that in the case of consecutive holes in the tape, the starwheel actuated contact remains closed and can be used as a holding circuit.

Starwheel sensing is easy on the tape. Paper tape program loops can be passed through the CMC Model 18 TAPE READER thousands of times.

TAPE DRIVE

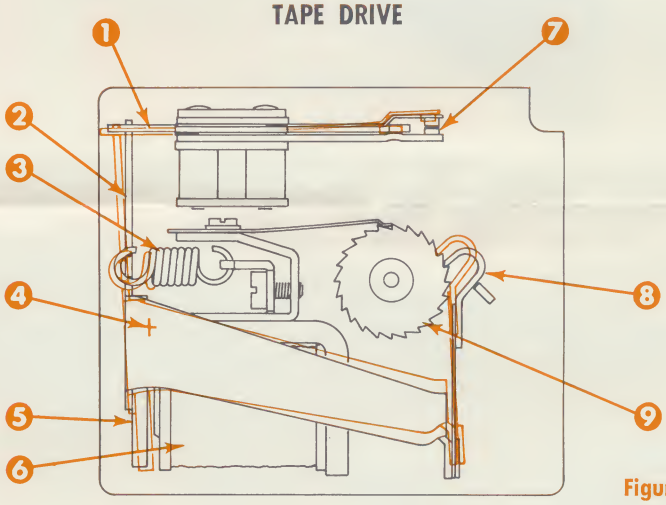

Figure 3

The method of feeding the tape is illustrated in Figure 3. When drive coil (6) is energized, armature (5) is attracted and moves about pivot point (4) to the position shown in blue lines, causing pawl (8) to engage the next tooth on ratchet (9). When the drive coil is de-energized, spring (3) returns the armature and steps the ratchet. The ratchet is fixed to the tape sprocket shaft.

An extension (2) of the armature operates a slider (1) which opens the interrupter contacts (7) when the drive coil is energized. By connecting the interrupter contacts in series with the drive coil, the device can be caused to self-step continuously. The interrupter switch also provides an interlock signal to connected equipment.

An important feature of this type of tape drive is that the tape is advanced by the spring-urged return stroke of the armature. The circuitry and control logic is considerably simplified. For example, if a command to step the tape is initiated by a character being sensed, that command is not wiped out by the energization of the drive coil.

FIRST CLASS
Permit No. 2290
Hackensack, N.J.

BUSINESS REPLY CARD

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COMPUTER MECHANISMS CORPORATION

P.O. Box 2383

South Hackensack, N.J. 07606

COMPUTER MECHANISMS CORPORATION

☐ Call me. I need further information on use of Model 18 in our application.

☐ We have an application for your Model 18 and would like to have a unit for evaluation.

Please send: ☐ Quantity discount schedule.

☐ Mounting & wiring diagram.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

_____ PHONE _____